Firmware Upgrade Instructions for the BayStack 100-series Hubs

Part No. 893-00945-A
November 1996

Bay Networks

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Introduction

This publication explains how to upgrade the firmware in a BayStack™ 100-series hub using the BayStack 100-series Hub Revision C Firmware Upgrade Kit.

Revision C firmware for the BayStack 100-series hubs was fully implemented across all BayStack 100-series hubs after November 15, 1996. This firmware provides the following additional features and support for 100-series hubs:

- Compatibility with the BayStack 100-series redundant fiber media adapter (10BASE-FL RDN Media Adapter)
- Bay Networks™ BaySecure™ LAN Access network security features
- More seamless operating environment between hubs in a stack

If these features would be useful to your network, and you have BayStack hubs that were purchased before November 15, 1996, refer to one of these two documents to determine if your hub requires an upgrade to revision C firmware:

- *Release Notes for the BayStack 100-series Redundant Fiber Media Adapter* (Bay Networks part number 896-126-A)
- *Release Notes for the BayStack 100-series Hubs* (Bay Networks part number 896-086-A)

Additional firmware upgrade kits are available through your Bay Networks distributor or authorized reseller. When contacting your distributor or reseller, order the BayStack 100-series Hub Revision C Firmware Upgrade Kit (Bay Networks part number CG1011001).

Package Contents

This firmware upgrade kit contains the following items:

- Programmable read-only memory (PROM) chip
- These upgrade instructions

Required Tools and Materials

To replace the 100-series hub firmware, you need the following tools:

- A #1 Phillips screwdriver to remove the cover from the 100-series hub
- An industry-approved IC extraction tool or equivalent to extract the PROM from its socket on the 100-series hub motherboard
- An antistatic mat and wrist strap (attached to an antistatic leash) to protect electronic components from static electricity damage
- The guide *Using the BayStack 100-series Hubs* (Bay Networks part number 893-839-C or later) to refer to procedures on installing and removing the hub

Upgrading the Firmware

The 100-series hub firmware resides on a PROM chip located on the motherboard in the 100-series hub. Upgrading the existing firmware requires you to replace the existing PROM with the PROM in this upgrade kit. Replacing the PROM requires you to perform the following tasks:

- Accessing the PROM on the 100-series hub motherboard
- Removing and replacing the existing PROM
- Verifying the installation

CAUTION: *This procedure requires you to remove power from the hubs in a stack and will interrupt network operation. You should plan to perform this upgrade procedure during nonpeak hours.*

Check the operational status of the hub before upgrading the firmware. Observe the status (Stat) LED on the front panel of the hub to make sure the hub is operating normally. Refer to *Using the BayStack 100-series Hubs* for a description of the LEDs on a 100-series hub.

Accessing the PROM on the 100-series Motherboard

CAUTION: *This procedure requires you to access the motherboard inside the 100-series hub. The motherboard contains devices that are sensitive to electrostatic discharge (ESD). Be sure to discharge any accumulated static electricity and to follow ESD handling procedures (such as wearing a wrist strap) when you handle boards and PROMs. Otherwise, you risk damaging the components.*

Only qualified technicians should install and service this equipment.

To access the PROM on the 100-series hub motherboard, follow these steps:

1. **Disconnect the power cord(s) from the hub.**
2. **Label and disconnect any cables attached to the hub.**
3. **If the hub is installed in a stack, remove the hub from the stack.**

   Hubs can be placed on a shelf or a table, mounted on a wall, or located in an equipment rack. Refer to the appropriate procedure in *Using the BayStack 100-series Hubs* for instructions on how to remove a hub from a stack.

4. **If the hub is installed in a rack or on a wall, remove the rack-mounting brackets from each side of the hub.**

   Use a #1 Phillips screwdriver to remove the flat-head screws that secure the rack-mounting brackets to the hub. Set the screws and rack-mounting brackets aside.

5. **Remove the cover from the hub to access the motherboard.**

   a. Use a #1 Phillips screwdriver to remove the pan-head screws that secure the cover to the hub, and set the screws aside.

   b. Grasp the edge of the cover at the rear of the hub and lift upward. Remove the cover from the hub and set it aside (see Figure 1).

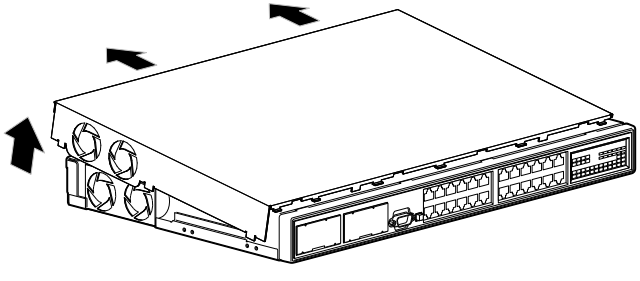

Figure 1. Removing the cover of the 100-series hub

Removing and Replacing the PROM

CAUTION: *The motherboard contains devices that are sensitive to electrostatic discharge (ESD). Be sure to discharge any accumulated static electricity and to follow ESD handling procedures (such as wearing a wrist strap) when you handle boards and PROMs.*

To replace the PROM on the 100-series hub motherboard, follow these steps:

1. **Find the PROM in location U17 on the 100-series hub motherboard (see Figure 2).**

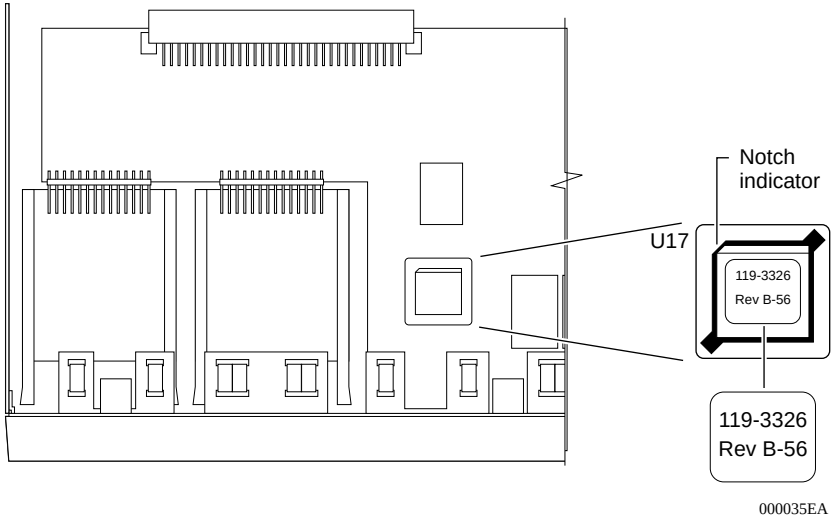

Figure 2. PROM location on the 100-series hub motherboard

CAUTION: *The PROM socket may not always be in the same orientation to the board as is shown in Figure 2. Use the notch indicator to determine the correct orientation of your PROM to the motherboard.*

2. **Remove the PROM.**

   a. Use an industry-standard IC extraction tool to firmly clamp the sides of the PROM.

CAUTION: *Be careful that the extraction tool you use does not bend or put pressure on the chips adjacent to the PROM socket.*

b. With the extraction tool in place, pull straight up on the PROM until it disengages from its socket.

NOTE: *Do not force the PROM out of its socket. If the PROM is difficult to remove, gently wiggle the PROM back and forth a few times to loosen the teeth, being careful not to damage the PROM socket. When the PROM is loosened, pull straight up on the PROM using the IC extraction tool. The PROM should lift out of its socket without damage to the socket or the PROM.*

3. Install the new PROM.

a. Grasp the sides of the PROM between your thumb and forefinger.

b. Gently place the PROM into the socket at location U17 on the motherboard, being sure to align the beveled corner of the PROM with the beveled corner (a pointer is visible) on the PROM socket.

c. Push the PROM straight down until it seats into the socket.

NOTE: *Do not force the PROM into its socket. If the PROM is difficult to install, verify that the teeth of the PROM are straight before inserting the PROM into the socket. Be careful not to damage the PROM or the socket while pushing the PROM into place.*

4. Replace the cover on the hub.

Reverse the procedure in step 5 of "Accessing the PROM on the 100-series Motherboard" on page 4.

Verifying the Installation

After you have replaced the PROM, Bay Networks recommends applying power to the hub to verify that it is operational before reinstalling the hub in the network.

To verify the installation, follow these steps:

1. **Connect the AC power cord to the hub, and check the Pwr and Stat LEDs on the front panel of the hub.**

   The Pwr and Stat LEDs on the front panel of the hub should light green to indicate that the hub is powered, has passed the power-up confidence test, and is operating normally.

   If the Pwr and Stat LEDs are green, continue to step 2.

   If the Pwr and Stat LEDs are off, make sure the AC power source is operational. If the AC power source is operational and the Pwr and Stat LEDs are still off, check the AC power connection to the hub.

   If the Stat LED is amber, the hub is experiencing a fault during normal operation or during diagnostics. To troubleshoot the problem, follow these steps until you locate the problem:

CAUTION: *Disconnect the AC power source before taking each step, and reconnect power to test the results before trying the next step.*

   a. Reset the hub.

   b. Check the Revision C firmware PROM to verify that the PROM is installed correctly and none of the pins are bent.

   c. Replace the Revision C firmware PROM with the old firmware PROM.

      If the hub boots properly with the old PROM but not with the new PROM, call your Bay Networks dealer for a new Revision C firmware PROM chip.

   d. Use a BayStack 100-series Network Management Module (NMM) to verify the operation of the hub. Refer to *Using the BayStack 100-series Network Management Module* (Bay Networks part number 893-841-A) for instructions on how to install and use an NMM to verify the operation of the hub.

2. **Disconnect AC power and reinstall the hub in the stack.**

   Refer to the appropriate procedure in *Using the BayStack 100-series Hubs* for instructions on how to install a hub.

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